

Road, River, Canal and Rail crossings

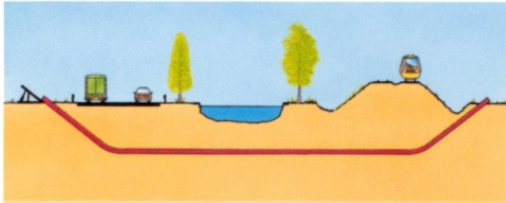


Figure B-12: HDD - Typical Application

The Technique...

Drilling the profile

A small diameter pilot hole is drilled to a pre-determined path using a mud-motor or jet bit on the end of the pilot string. The pilot string is drilled up to 80 meters in length, then the washover pipe is advanced until it is approximately 30 meters behind the drill bit. Alternate pilot string and drilling operations take place until the exit point is reached.

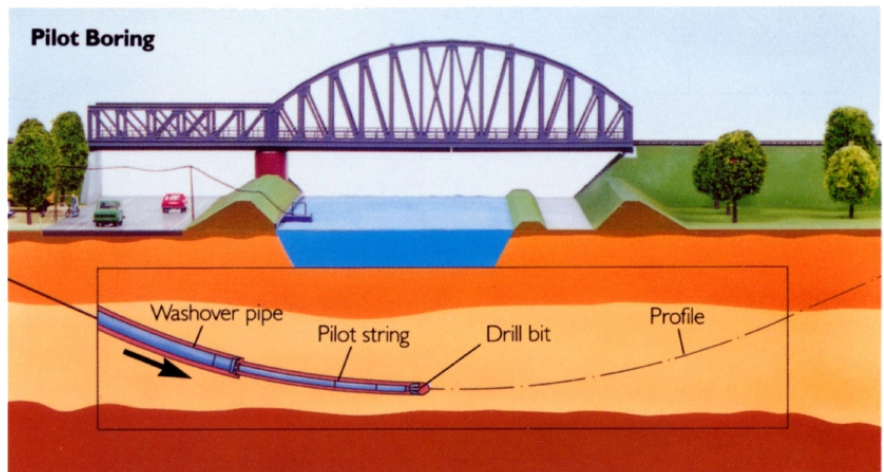


Figure B-13: HDD - First Pass

SFFP Concord-Sacramento Pipeline

Figures B-12 and 13

HDD - Typical Application and First Pass

Aspen
Environmental Group